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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,360	06/24/2003	Fabri Ozel	DN2003081	1110

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THE GOODYEAR TIRE & RUBBER COMPANY
INTELLECTUAL PROPERTY DEPARTMENT 823
1144 EAST MARKET STREET
AKRON, OH 44316-0001

EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,360

Applicant(s)

OZEL ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 062403.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

✓

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1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) **Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 204 (JP 10-095204) in view of Japan 349 (JP 10-298349) or Korean (KR 2003046542 published 6-18-03 as evidenced by the Derwent abstract).**

Japan 204, directed to reducing heat generation and improving abrasion resistance, discloses a pneumatic tire for trucks or buses having a tread comprising a cap tread and a base tread. The base comprises 100 parts diene rubber such as natural rubber, 10-60 parts carbon black and 5-40 parts silica. See abstract and paragraph 21 of machine translation. The volume of the base is 10-60% of the total tread volume (paragraph 7 of machine translation). The volume of the base is therefore 0.1 to 1.5 times the volume of the cap. In an invention example, the cap composition C-4 comprises 100 parts natural rubber and 50 parts carbon black and the base composition B-3 comprises 30 parts carbon black and 20 parts silica. Since the base volume is 23% of total tread volume in this invention example, the base volume to cap volume ratio is 29% ($23 / 77 \times 100\%$) - 29% falling within the claimed range of 25-100%. Since the 300% modulus of the cap composition C-4 is 17.5 MPa whereas the 300% modulus of the base composition B-3 is 14.8 MPa, the cap has a stiffness greater than that of the base as claimed. Claim 1 differs from the above noted invention example in that the cap of claim 1 requires 8 to 35 parts silica.

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As to claims 1-6, it would have been obvious to one of ordinary skill in the art to provide the tread of Japan '204's truck / bus tire having reduced heat generation and improved abrasion resistance such that the cap comprises silica and carbon black as claimed so that:

the cap comprises:

100 parts natural rubber,
about 25 to about 50 parts carbon black, and
about 8 to about 35 parts silica;

and

the base comprises:

100 parts natural rubber,
about 25 to about 50 parts carbon black, and
about 8 to about 35 parts silica

since:

(1) Japan 204, directed to reducing heat generation and improving abrasion resistance, teaches:

a cap comprising

100 parts natural rubber,
reinforcing filler such as 50 parts carbon black,

a base comprising

100 parts natural rubber,
10-60 parts (e.g. 30 parts) of carbon black,
5-40 parts (e.g. 20 parts) silica

and

(2) (a) Japan 349, also directed to a cap / base tire tread having low heat build up and high abrasion resistance, teaches a **rubber composition X for the cap and undertread (base)** comprising 100 part natural rubber, 0-80 parts carbon black and 5-80 parts silica; Japan 349 thereby suggesting using silica and carbon black in both the cap and base of Japan 204's tread or (b) Korean, also concerned with abrasion resistance of a cap / base tire tread, teaches improving gas mileage by using a **cap**

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comprising 100 parts natural rubber, 35-40 parts carbon black and 10-15 parts silica and a **sub-tread (base)** comprising 100 parts natural rubber, 25-38 parts carbon black and 5-20 parts silica; Korean thereby suggesting using silica and carbon black in both the cap and base of Japan 204's tread.

As to claimed tread base to tread cap volume ratio being 0.25-1.0, note the suggestion from Japan 204 to use a tread base to total tread volume of 0.25-0.60.

As to the cap being stiffer than the base, note Japan 204's teaching to formulate the cap and base such that the 300% modulus of the cap is greater than that of the base.

As to the remaining claims: The claimed stiffness as in claims 2 and 3 would have been obvious in view Japan 204's suggestion to formulate the cap and base such that the cap has a greater 300% modulus than that of the base and the tire has reduced heat generation and improved abrasions resistance. The claimed amounts of silica and carbon black as in claims 4 and 5 would have been obvious in view of the suggestion from the applied prior art to use silica and carbon black in the cap and base such that the tire has reduced heat generation and improved abrasion resistance. With respect to claim 5, note that invention base composition B-4 comprises 30 parts carbon black and 15 parts silica. The claimed volume ratio as in claim 6 would have been obvious in view of Japan 204's teaching to use a base volume to total tread volume ratio of 0.1-0.6.

3) **Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 204 in view of Japan 349 or Korean as applied above and further in**

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view of Ohta et al (US 5046542), Nakamura et al (US 6095217) or Japan 602 (JP 3-7602).

As to claims 2 and 3, the claimed stiffness (cap having greater storage / dynamic modulus; cap having greater 300% modulus) would have been obvious in view (1) Japan 204's suggestion to formulate the cap and base such that the cap has a greater 300% modulus than that of the base and the tire has reduced heat generation and improved abrasions resistance and (2) (a) Ohta et al's suggestion to provide a cap tread with a storage / dynamic modulus greater than a lower tread layer to improve cut resistance of the tire, (b) Nakamura et al's suggestion to provide a cap tread with a storage / dynamic modulus greater than that of the base to improve controllability on wet roads and decrease chipping resistance of the tire or (c) Japan 602's suggestion to provide a tread base with a 300% modulus (e.g. 105 (kgf/cm²) which corresponds to 10.3 MPa) lower than that of the cap, to improve resistance to cutting and chipping of the tire.

Remarks

4) Mizuno (US 2003/0079816) is of interest for teaching 30-40 parts carbon black and 5-10 parts silica in a tread base of cap / base tread for a truck.

Takino et al (US 5225011) is of interest for teaching 30-50 parts carbon black and 5-30 parts silica in a tread base of a cap / base tread for a truck.

The remaining references are of interest.

5) No claim is allowed.

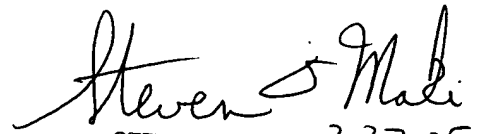
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6) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
February 27, 2005


STEVEN D. MAKI 2-27-05
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733